

In the claims:

1 (Original) A method of phytoremediating an environment which is contaminated with at least one heavy metal or oil hydrocarbon, which method comprises:

- (a) providing a transgenic plant, which plant expresses at least one heterologous nucleic acid encoding an enzyme having rhamnosyltransferase activity,
- (b) planting or locating said transgenic plant in said environment.

2 (Original) A method as claimed in claim 1 wherein the environment is contaminated with both heavy metal and oil hydrocarbon pollutants.

3 (Currently amended) A method as claimed in claim 1 ~~or claim 2~~ wherein the plant expresses two different heterologous enzymes having rhamnosyltransferase activity and said environment is optionally contaminated with both heavy metal and oil hydrocarbon pollutants.

4 (Original) A method of producing a transgenic plant having improved phytoremediating properties with respect to heavy metal or oil hydrocarbon pollutants, the method comprising:

- (i) introducing into a plant cell a heterologous nucleic acid vector encoding at least one enzyme having rhamnosyltransferase activity,
- (ii) causing or allowing recombination between the nucleic acid vector and the plant cell genome to introduce the

nucleotide sequence encoding the enzyme having rhamnosyltransferase activity into the plant genome,
(iii) regenerating the transformed plant cell into a plant, such that the or each enzyme is expressed in the plant.

5 (Original) A method as claimed in claim 4 wherein the vector encodes two different enzymes having rhamnosyltransferase activity.

6 (Currently amended) A method as claimed in ~~any one of the preceding claims~~ claim 3 wherein the phytoremediating is either one or both of phytostabilizing heavy metal pollutants or phytodegrading oil hydrocarbons.

7 (Currently amended) A method as claimed in claim 6 wherein the heavy metal is selected from the ~~list~~ group consisting of ~~at least one of~~ lead, copper, cadmium, nickel, mercury, arsenic, selenium, strontium or zinc.

8 (Currently amended) A method as claimed in ~~any one of the preceding claims~~ claim 3 wherein the oil hydrocarbon is crude oil.

9 (Currently amended) A method as claimed in ~~any one of the preceding claims~~ claim 3 wherein the oil hydrocarbon is the C₁₂-C₁₈ hydrocarbon fraction of crude oil.

10 (Currently amended) A method as claimed in ~~any one of the preceding claims~~ claim 3 wherein the metal accumulation coefficient (C_{MA}) of the plant:

$(C_{MA} = [C_s]/[C_r])$, ~~where~~ where the heavy metal is copper present at 1000 mg/kg, and C_s is the copper concentration in shoot, and C_r is the copper concentration in the rhizosphere, is less than 20% of that of a corresponding non-transgenic plant[[,]].

11 (Currently amended) A method as claimed in ~~any one of the preceding claims~~ claim 3 wherein ~~the or each~~ at least one enzyme is involved in the synthesis of monorhamnolipids.

12 (Currently amended) A method as claimed in claim 11 wherein ~~the or each~~ at least one enzyme is selected from the ~~list~~ group consisting of[[:]] *rh1A* gene or *rh1B* gene.

13 (Original) A method as claimed in claim 12 wherein the *rh1A* and *rh1B* gene are derived from a procaryote.

14 (Original) A method as claimed in claim 13 wherein the *rh1A* and *rh1B* gene are derived from *Pseudomonas aeruginosa*.

15 (Currently amended) A method as claimed in ~~any one of the preceding claims~~ claim 3 wherein the plant is selected from the ~~list~~ group consisting of[[:]] *Nicotiana tabacum*; *Arabidopsis thaliana*.

16 (Currently amended) A recombinant plant vector which comprises a nucleotide sequence encoding ~~an~~ at least one enzyme having rhamnosyltransferase activity.

17 (Original) A vector as claimed in claim 16 wherein the vector encodes two different enzymes having rhamnosyltransferase activity.

18 (Currently amended) A vector as claimed in claim 16 ~~or claim 17~~ wherein ~~the or each~~ at least one enzyme is selected from the ~~list~~ group consisting of: *rh1A* gene or *rh1B* gene.

19 (Currently amended) A vector as claimed in claim 18 wherein the *rh1A* and *rh1B* genes are derived from a procaryote.

20 (Currently amended) A vector as claimed in claim 19 wherein the *rh1A* and *rh1B* genes are derived from *Pseudomonas aeruginosa*.

21 (Currently amended) A plant host cell containing or transformed with a heterologous vector of ~~any one of claims 16 to 20~~.

22 (Currently amended) A transgenic plant transformed with a heterologous vector of ~~any one of claims 16 to 20~~, or which is a clone, or selfed or hybrid progeny or other descendant of said transgenic plant, which in each case expresses at least

one heterologous nucleic acid encoding an enzyme having rhamnosyltransferase activity₇ .

23 (Currently amended) A plant as claimed in claim 22, wherein the plant is selected from the ~~list~~ group consisting of_{[[:]]} *Nicotiana tabacum* _{[[;]]} and *Arabidopsis thaliana*.

24 (Cancelled)

Please add the following new claims:

25 (New) A method as claimed in claim 5 wherein the phytoremediating is either one or both of phytostabilizing heavy metal pollutants or phytodegrading oil hydrocarbons.

26 (New) A method as claimed in claim 5 wherein the heavy metal is selected from the group consisting of at least one of lead, copper, cadmium, nickel, mercury, arsenic, selenium, strontium and zinc.

27 (New) A method as claimed in claim 5 wherein the oil hydrocarbon is crude oil.

28 (New) A method as claimed in claim 5 wherein the oil hydrocarbon is the C₁₂-C₁₈ hydrocarbon fraction of crude oil.

29 (New) A method as claimed in claim 5 wherein the metal accumulation coefficient (C_{MA}) of the plant:

($C_{MA} = [C_s]/[C_r]$), where the heavy metal is copper present at 1000 mg/kg, and C_s is the copper concentration in shoot, and C_r is the copper concentration in the rhizosphere, is less than 20% of that of a corresponding non-transgenic plant.

30 (New) A method as claimed claim 5 wherein at least one enzyme is involved in the synthesis of monorhamnolipids.

31 (New) A method of phytoremediating an environment which is contaminated with at least one heavy metal or oil hydrocarbon, which method comprises:

- (a) providing a transgenic plant, which plant expresses at least one heterologous nucleic acid encoding an enzyme having rhamnosyltransferase activity,
- (b) planting or locating said transgenic plant in said environment, wherein said nucleic acid is encoded by the vector of claim 16.

32. (New) A method of producing a transgenic plant having improved phytoremediating properties with respect to heavy metal or oil hydrocarbon pollutants, the method comprising:

- (i) introducing into a plant cell a heterologous nucleic acid vector according to claim 16 encoding at least one enzyme having rhamnosyltransferase activity,
- (ii) causing or allowing recombination between the nucleic acid vector and the plant cell genome to introduce the

nucleotide sequence encoding the enzyme having
rhamnosyltransferase activity into the plant genome,
(iii) regenerating the transformed plant cell into a plant,
such that the or each enzyme is expressed in the plant.